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Quantitative determination of the total content γ-pyrone Compounds in the aerial part of *Halenia corniculata* by HPLC

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Abstract

This work presents the results of a quantitative determination of the total content of γ-pyrone compounds in the aerial part of *Halenia corniculata* using the HPLC method, where the standard samples of 1-hydroxy-2,3,5-trimethoxyxanthone and 1-hydroxy-2,3,4,5-tetramethoxyxanthone. The main active ingredients of *H. corniculata* are xanthones and flavones, and this plant can be used as a possible source of available phenol compounds. To determine the total content of xanthones and flavones in the aerial part of *H. corniculata*, the hexane, chloroform, and ethyl acetate fractions were studied. During the experiment, 13 compounds were found in the hexane fraction of *H. corniculata*, among which the content of 1-hydroxy-2,3,4,5-tetramethoxyxanthone is 43.07% of the mass of the hexane fraction and 1.44% of the mass of absolutely dry raw materials, and 1-hydroxy-2,3,5-trimethoxyxanthone – 22.20% by weight of the hexane fraction and 0.74% by weight of absolutely dry raw materials. In the chloroform fraction of *H. corniculata*, 17 compounds were found, and 1-hydroxy-2,3,4,5-tetramethoxyxanthone (6.26% of the mass of the chloroform fraction and 0.20% of the mass of absolutely dry raw materials) and 1-hydroxy-2,3,5-trimethoxyxanthone (4.22% by weight of the chloroform fraction and 0.13% by weight of absolutely dry raw materials). In the study of the ethyl acetate fraction of *H. corniculata*, 14 compounds were found, among which 1 component was identified – luteolin, the content of which is 68.26% of the weight of the ethyl acetate fraction and 2.41% of the weight of absolutely dry raw material. The total content of γ-pyrone compounds in the aerial part of *H. corniculata* is 4.92% (based on the weight of the absolute dry raw material).

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